

REMARKS

Claims 1-8 remain pending. By the foregoing amendment, non-elected claims 9-20 have been cancelled without prejudice or disclaimer. Claims 1-8 have been amended to better define the invention and to address an issue raised in the Office Action. No new matter is added.

Claims 1-8 stand rejected under 35 U.S.C. §112, second paragraph, as failing to particularly point out and distinctly claim the invention. This rejection is respectfully traversed insofar as it may be applied to claims 1-8 as amended.

The Office Action alleges claim 1 is indefinite because of its reference to a “solder dipping layer.” The Office Action objects to the reference to “ultrasonic dipping layer” in claim 4 on similar grounds. By the foregoing amendment, the references to “solder dipping layer” in claims 1-3 and “ultrasonic dipping layer” in claims 4-8 have been deleted.

Amended claim 1 is directed to a low-pressure discharge lamp comprising a tubular glass lamp vessel on an outer surface of which a conductor layer is formed as an electrode, wherein the conductor layer is formed by solder dipping and has a main component of any one of tin, an alloy of tin and indium, or an alloy of tin and bismuth. As described in the specification, when the conductor layer is formed by solder dipping and has a main component of tin, an alloy of tin and indium, or an alloy of tin and bismuth, a strong adhesive bond is created between the conductor layer and the glass surface, and the lamp has a stabilized discharge characteristic and a lengthened lifespan (specification p. 3, lines 10-21).

Amended claim 4 is directed to a low-pressure discharge lamp comprising a tubular glass lamp vessel on an outer surface of which a conductor layer is formed as an electrode, wherein the conductor layer is formed by ultrasonic solder dipping. As described in the specification, when the conductor layer is formed by ultrasonic solder dipping, an even layer with a uniform thickness is obtained and the resulting low-pressure discharge lamp is highly efficient (specification p. 4, lines 19-24).

The Office Action alleges it is improper to refer to include process limitations in a product claim, and that the claims must instead include “positive product limitations.” Applicants respectfully submit that the limitations that the conductor layer is “formed by solder dipping” and “formed by ultrasonic solder dipping” in claims 1 and 4, respectively, are proper and definite under 35 U.S.C. § 112, second paragraph.

So-called product-by-process claims are discussed in the Manual of Patent Examining Procedure (M.P.E.P.) § 2173.05(p), which is reproduced below in relevant part.

A product-by-process claim, which is a product claim that defines the claimed product in terms of the process by which it is made, is proper. *In re Luck*, 476 F.2d 650, 177 USPQ 523 (CCPA 1973); *In re Pilkington*, 411 F.2d 1345, 162 USPQ 145 (CCPA 1969); *In re Steppan*, 394 F.2d 1013, 156 USPQ 143 (CCPA 1967). A claim to a device, apparatus, manufacture, or composition of matter may contain a reference to the process in which it is intended to be used without being objectionable under 35 U.S.C. 112, second paragraph, so long as it is clear that the claim is directed to the product and not the process.

(emphasis added). Claims 1 and 4 are unambiguously directed to a product, particularly a low-pressure discharge lamp. There is no question that the claims define a product, not a process. The claim limitation that the conductor layer is “formed by solder dipping” (claim 1) or “formed by ultrasonic solder dipping” (claim 4) is a proper product limitation because it “defines the claimed product in terms of the process by which it is made.” M.P.E.P. § 2173.05(p). As discussed above, the formation of the conductor layer by solder dipping or ultrasonic solder dipping results in various advantages and therefore a structurally different product. Accordingly, claims 1-8 would be understood by persons skilled in the art and are properly definite under 35 U.S.C. § 112, second paragraph. Reconsideration and withdrawal of the § 112, second paragraph, rejection of claims 1-8 are respectfully requested.

In view of the foregoing, favorable reconsideration and allowance of the subject application are respectfully requested.

Respectfully submitted,

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